



PATENT
SP01-339

THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicant(s): Sparrow
Serial No.: 09/991,399
Filed: November 20, 2001
For: DISPERSION MANAGEMENT OPTICAL
LITHOGRAPHY CRYSTALS FOR BELOW
160NM OPTICAL
LITHOGRAPHY AND METHODS THEREOF

RECEIVED
NOV 29 2002
TC 1700

Assistant Commissioner for Patents
Washington, DC 20231

**INFORMATION DISCLOSURE STATEMENT
UNDER 37 CFR § 1.97 - 1.98**

Pursuant to 37 CFR 1.98, in addition to the references cited in the above-referenced patent application, the Applicants hereby disclose to the United States Patent and Trademark Office the references recorded on the enclosed PTO Form 1449.

Respectfully submitted,

Edward F. Murphy, III
Attorney for Assignee
Reg. No. 38,251
Corning Incorporated
SP-TI-03
Corning, NY 14831
(607) 974-3716

Date: NOV. 22, 2002

Date of Deposit: November 27, 2002

I hereby certify that this paper (along with any paper referred to as being attached or enclosed) is being deposited with the United States Postal Service on the date indicated above with sufficient postage as first class mail in an envelope addressed to the: Commissioner of Patents and Trademarks, Washington, DC 20231

Signature

LIST OF PATENTS AND PUBLICATIONS
FOR APPLICANTS INFORMATION
DISCLOSURE STATEMENT

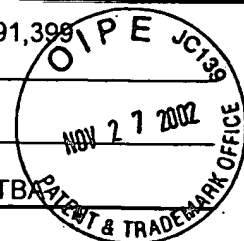
ATTORNEY DOCKET NO. SP01-339

SERIAL NO. 09/991,399

APPLICANT Sparrow, R. W.

FILING DATE 11/20/01

GROUP TO
BE ASSIGNED TBA



REFERENCE DESIGNATION U.S. PATENT DOCUMENTS

Examiner Initial		Document Number	Date	Name	Class	Sub-Class	Filing Date if Approp.
	A1	2002/1012497	8/1/02	Sparrow			5/5/00
	A2	2002/0011202	1/31/02	Gianoulakis et al.			9/15/01
	A3	2,498,186	2/21/50	Stockbarger et al.			
	A4	2,550,173	4/24/51	Swinehart et al.			
	A5	3,766,080	10/16/73	Swinehart et al.			
	A6	3,769,230	10/30/73	Robinson et al.			
	A7	3,959,442	5/25/76	Pastor et al.			
	A8	4,038,201	7/26/77	Hargreaves			
	A9	4,048,514	9/13/77	Hausseuhl et al.			
	A10	4,053,572	10/11/77	Moss et al.			
	A11	4,101,331	7/18/78	Anderson			
	A12	4,128,589	12/5/78	Pastor et al.			
	A13	5,000,548	3/19/91	Mercado			
	A14	5,039,858	8/13/91	Anderson et al.			
	A15	5,852,627	12/22/98	Ershov			
	A16	5,856,991	1/5/99	Ershov			
	A17	5,901,163	5/4/99	Ershov			
	A18	5,970,082	10/19/99	Ershov			
	A19	5,978,409	11/2/99	Das et al.			
	A20	5,982,800	11/9/99	Ishihara et al.			
	A21	6,069,749	5/30/00	Omura			
	A22	6,181,480	1/30/01	Ito			
	A23	6,201,634	3/13/01	Sakuma et al.			
	A24	6,298,080	10/2/01	Heist et al.			
	A25	6,309,461	10/30/01	Gianoulakis et al.			
	A26	6,342,312	1/29/02	Oba et al.			
	A27	6,377,338	4/23/02	Suenaga			
	A28	6,395,657	5/28/02	Mayolet et al.			
	A29	6,451,111	9/17/02	Beall et al.			

RECEIVED

NOV 29 2002

TC 1700

EXAMINER:

DATE CONSIDERED:

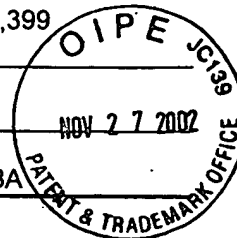
EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609: draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

Information Disclosure Statement-PTO-1449 (Modified)

LIST OF PATENTS AND PUBLICATIONS
FOR APPLICANTS INFORMATION
DISCLOSURE STATEMENT

APPLICANT Sparrow, R. W.

FILING DATE 11/20/01

GROUP TO
BE ASSIGNED TBA

FOREIGN PATENT DOCUMENTS

		Document Number	Date	Country	Class	Sub-Class	Translation	
							Yes	No
	A30	1 006 373 A2	6/7/00	EPC			X	
	A31	0 875 778 A1	11/4/98	EPC			X	
	A32	0 869 203 B1	8/22/01	EPC			X	
	A33	0 942 297	9/15/99	EPC			X	
	A34	1 130 419 A2	9/5/01	EPC			X	
	A35	1 139 138 B1	10/4/01	EPC			X	
	A36	1 291 321	3/27/69	German			X	
	A37	222 426 A1	5/15/98	Germany			X	
	A38	09-315894	12/9/97	JAPAN			X	
	A39	10[1998]-59799	3/3/98	Japan			X	
	A40	10[1998]-1310	1/6/98	Japan			X	
	A41	99/46836	9/16/99	PCT			X	
	A42	01/37052 A1	5/25/01	PCT			X	
	A43	00/75697 A1	12/14/00	PCT			X	
	A44	02/31232	4/18/02	PCT			X	
	A45	01/01182	1/4/01	PCT			X	
	A46	0 942 297 A2	9/15/99	PCT			X	
	A47	91/11734	8/8/91	PCT			X	

RECEIVED
NOV 29 2002
TC 1700

EXAMINER:

DATE CONSIDERED:

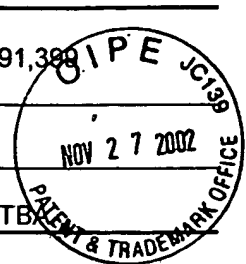
EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609: draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

Information Disclosure Statement-PTO-1449 (Modified)

LIST OF PATENTS AND PUBLICATIONS
FOR APPLICANTS INFORMATION
DISCLOSURE STATEMENT

APPLICANT Sparrow, R. W.

FILING DATE 11/20/01

GROUP TO
BE ASSIGNED TB

OTHER ART (Including Author, Title, Date, Pertinent Pages, etc.)

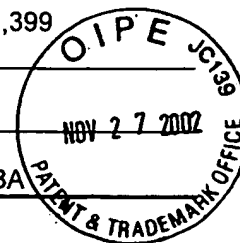
A48	"Growth and Properties of Scintillating Crystals BaF ₂ ," Jiang et al., <i>Journal of Crystal Growth</i> , vol. 79, no. 1-3, December 1986, pages 720-722
A49	"Modern Optical Engineering-The Design of Optical Systems," Warren J. Smith, <i>Modern Opt Eng</i> , McGraw-Hill Book Company, 1966, Article: "Optical Materials and Coatings," pp 145-161; Article: "The Design of Optical Systems: General," pp 326-355.
A50	U.S. Serial No. 09/327,043, filed June 7, 1999, Gianoulakis et al., Crystal Growth and Annealing Method and Apparatus, pages 1-21
A51	OPTOVAC, Optical Crystal Handbook, January 1993, pages 1-41
A52	"Optical Characteristics of Large Single Crystals of Fluorides", Chernevskaya, E.G., et al., <i>Opt. Technol. (USSR)</i> , June 1973, Vol. 40, No. 6 pages 379-380
A53	Sveltto, O, "Principles of Lasers," 3 rd Ed., 1989, pp.330-331
A54	Lambda Physik webpage: www.lambdaphysik.com/Microlithography/fullstory.asp?news_id=22 , Lithography News, Lambda Physik Ships Fifth 157nm Lithography Laser, page 1
A55	Lambda Physik webpage: www.lambdaphysik.com/Microlithography/novaline.asp , Novaline @ Lithography Series, pages 1-2.
A56	Lambda Physik webpage: www.lambdaphysik.com/Microlithography/mooreslaw.asp , Lithography - History, Moore's Law, pages 1-3.
A57	"Lambda Physik Fourth Annual 157nm/EUV Symposium" website: http://www.lambdaphysik.com/microlithography/157 . (printed out 11/01)
A58	Lambda Physik webpage: www.lambdaphysik.com/Microlithography/fullstory.asp , Lithography News, Lambda Physik Announces Breakthrough in 157 nm F2 Lithography, pages 1-2.
A59	"Spatial Dispersion in the Dielectric Constant of GaAs," Yu et al., <i>Solid State Comm</i> , Vol. 9, pp. 1421-1424, 1971.
A60	"Technology at a Glance-Fall 2001," Website: http://www.nist.gov/public_affairs/taglance/tag01fall/fall2001.htm , pp 1-11.
A61	"Semicon West 2001," Website: http://www.nist.gov/public_affairs/factsheet/semiconwest01.htm
A62	"Metrology Supporting Deep Ultraviolet Lithography." Website: http://www.eeel.nist.gov/810.0/lithography_deep.html , published June 2001, Ofc of Microelectronic Programs.
A63	"Minimizing Spatial-dispersion-induced birefringence in crystals used for precision optics by using mixed crystals of materials with the opposite sign of the birefringence." Website: http://physics.nist.gov/Divisions/Div842/Gp3/DUVMatChar/birefring.html . updated 8/1/01.
A64	"The Trouble with Calcium Fluoride." <i>SPIEs oeMagazine</i> , pp 23-25, March 2002.
A65	"Ca _{1-x} Ba _x F ₂ and Ca _{1-x} Sr _x F ₂ Mixed Crystals as potential solution to intrinsic birefringence problem for 157nm lithography," Burnett et al., <i>SEMATECH 157nm Tech Data Rev</i> , 12/11/01, NIST.
A66	"Stress-Optical coefficients of 157nm Materials," Burnett et al., <i>SEMATECH 157nm Tech Data Rev</i> , 12/11/01, NIST.
A67	"Intrinsic Birefringence in 157nm Materials," Burnett et al., 2 nd Int'l Symposium on 157nm Lithography, 5/15/01, NIST.
A68	NIST updates for July 9, 2001, website: http://www.nist.gov/public_affairs/update/upd010709.htm , pp 1-8.
A69	"Electron and Optical Physics Division" website: http://physics.nist.gov/TechAct/Div841/div841h.html , <i>Tech Activities 2001</i> , pp 1-9.
A70	"Atomic Physics Division" website: http://physics.nist.gov/TechAct/Div842/div842h.html , <i>Tech Activities 2001</i> , pp 1-17.

EXAMINER:

DATE CONSIDERED:

EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609: draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

FORM PTO-1449 (MODIFIED) LIST OF PATENTS AND PUBLICATIONS FOR APPLICANTS INFORMATION DISCLOSURE STATEMENT	ATTORNEY DOCKET NO. SP01-339	SERIAL NO. 09/991,399
	APPLICANT Sparrow, R. W.	
	FILING DATE 11/20/01	GROUP TO BE ASSIGNED TBA



OTHER ART (Including Author, Title, Date, Pertinent Pages, etc.) **CONTINUED**

A71	"Plasma Radiation Group; DUV Sources and Materials Characterization" website: http://physics.nist.gov/Divisions/Div_842/Gp3/DIVMatChar/index.html , pp 1-2.
A72	"Absolute refractive indices and thermal coefficients of fused silica and calcium fluoride near 193 nm," <i>Appl Optics</i> , Vol. 37, No. 25, 9/1/98, pp 5964-5968.
A73	"Intrinsic Birefringence in calcium fluoride and barium fluoride," <i>Phys Review B</i> , Vol. 64, 241102(r), pp 1-4
A74	"Polarizability of Fluoride Ions in Fluorides with Fluorite-type structure" Sorokin, N.I., <i>Crystallography Reports</i> , Vol. 45, No. 6, 2000, pp 976-978.
A75	"Optical Anisotropy of Silicon Single Crystals" Pastrnak et al., <i>Phys Review B</i> , Vol. 3, No. 8, 15 April 1971, pp 2567-2571.
A76	Barium Fluoride and Magnesium Fluoride Product Information, ISP Corp, www.ispoptics.com
A77	Barium Fluoride Patinal product info, EM Industries, website: www.emicoe.com/barfluor.cfm
A78	"Materials Problem snags 157nm lithography" <i>EETimes</i> website: www.eetimes.com/story/OEG20010720S0106 , July 20, 2001, 4 pages.
A79	"Industry Weighs shift to 157nm lithography" <i>EETimes</i> website: www.eetimes.com/story/OEG20000518S0010 , May 18, 2000, 4 pages.

EXAMINER:

DATE CONSIDERED:

EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609: draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

Information Disclosure Statement-PTO-1449 (Modified)

RECEIVED

NOV 29 2002

TC 1700